

In re Patent Application of:
JOFFE ET AL.
Serial No. 09/997,228
Filing Date: 11/29/01

In the Claims:

Claims 1-20 (CANCELLED)

Please add new claims 21-36 as follows:

21. (NEW) An amplifier driver for driving a load, comprising:

a first operational amplifier having first and second differential polarity inputs and an output;

an inverting level shifter connected to said output of said first operational amplifier and producing first and second level-shifted outputs;

complementary first and second output transistor circuits and first and second current mirror circuits operatively connected to respective first and second level-shifted outputs and operative with each other, wherein said first and second current mirror circuits form a current mirror node and said first and second output transistor circuits form an output node, wherein at a no-load condition, the voltage at the current mirror node and voltage at the output node are substantially the same;

a current feedback circuit extending from the current mirror node to an input of the first operational amplifier, and including a feedback operational amplifier positioned within the current feedback circuit and having an output, and a first input operatively connected to said output node and a second input operatively connected to said current mirror node, and first and second auxiliary bias current source circuits and first and second current mirror circuits

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operatively connected to said output of said feedback operational amplifier such that the current mirror node substantially tracks the output voltage at the output current node and substantially removes current mirror distortion for different values of load resistance.

22. (NEW) The amplifier driver according to Claim 21, wherein said current feedback circuit is connected to an inverting input of the first operational amplifier.

23. (NEW) The amplifier driver according to Claim 21, and further comprising a resistor circuit within said current feedback circuit.

24. (NEW) The amplifier driver according to Claim 21, wherein said first input of said feedback operational amplifier comprises a non-inverting input and said current feedback circuit is connected thereto.

25. (NEW) The amplifier driver according to Claim 21, and further comprising a feedback transistor operatively connected to said output of said feedback operational amplifier.

26. (NEW) The amplifier driver according to Claim 25, wherein said feedback transistor comprises a MOSFET, and said feedback operational amplifier is operative as a gate driver for said MOSFET.

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27. (NEW) The amplifier driver according to Claim 26, wherein said MOSFET has a source-drain path coupled to voltage rails through the first auxiliary bias current source circuit.

28. (NEW) An amplifier driver for driving a load, comprising:

a first operational amplifier having first and second differential polarity inputs and an output;

an inverting level shifter connected to said operational output of said first amplifier and producing first and second level-shifted outputs;

complementary first and second output transistor circuits and first and second current mirror circuits operatively connected to respective first and second level-shifted outputs and operative with each other, wherein said first and second current mirror circuits form a current mirror node and said first and second output transistor circuits form an output node, wherein at a no-load condition, the voltage at the current mirror node and voltage at the output node are substantially the same;

a current feedback circuit extending from the current mirror node to an input of the first operational amplifier, and including a feedback operational amplifier positioned within the current feedback circuit and having an output and a first input operatively connected to said output node and a second input operatively connected to said current mirror node, and first and second auxiliary bias current source circuits and first and second current mirror circuits operatively connected to said output of said feedback operational amplifier such that the current mirror node

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substantially tracks the output voltage at the output current node and substantially removes current mirror distortion for different values of load resistance, wherein said second current mirror circuit and second auxiliary bias current source are operatively connected to an input of said operational amplifier.

29. (NEW) The amplifier driver according to Claim 28, wherein said second auxiliary bias current source is operatively connected to an inverting input of the first operational amplifier.

30. (NEW) The amplifier driver according to Claim 29, wherein said auxiliary bias current source circuit is referenced to ground.

31. (NEW) The amplifier driver according to Claim 28, wherein said current feedback circuit is connected to an inverting input of the first operational amplifier.

32. (NEW) The amplifier driver according to Claim 28, and further comprising a resistor circuit within said current feedback circuit.

33. (NEW) The amplifier driver according to Claim 28, wherein said first input of said feedback operational amplifier comprises a non-inverting input and said current feedback circuit is connected thereto.

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34. (NEW) The amplifier driver according to Claim 28, and further comprising a feedback transistor operatively connected to said output of said feedback operational amplifier.

35. (NEW) The amplifier driver according to Claim 34, wherein said feedback transistor comprises a MOSFET, and said feedback operational amplifier is operative as a gate driver for said MOSFET.

36. (NEW) The amplifier driver according to Claim 35, wherein said MOSFET has a source-drain path coupled to voltage rails through the first auxiliary bias current source circuit.